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Coker

*Coker Means Cotton*

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GEORGE J. WILDS first went with the Coker organization in 1908. Today he is its president and managing director.

**C**ALEB COKER'S greatest claim to fame lay not so much in the considerable success he won as a farmer and merchant as in the fact that he was the fountain-head of later generations that took root in and near Society Hill, S. C., and which continue to this day as great influences in the agricultural and business life of that state and, in fact, the entire Southland.

Because he was a farmer, Caleb Coker grew and knew cotton, but he had no way of knowing what one of his progeny was destined to do for that crop, or that the name he bore would one day become almost synonymous with cotton in many sections of the South. Caleb had purchased a farm at Hartsville, some 15 miles southeast of Society Hill, which he later turned over to James Lide Coker, one of his four sons, before the Civil War started. James won a major's rank in the war and returned to Hartsville with a leg wound that was to keep him on crutches the rest of his life. He had lost practically all of his worldly possessions except the run-down farm, but he had a fine mind, trained at Harvard in botany and agricultural chemistry. He also had the iron determination to disregard his handicaps and to devote his life to restoring and building up the lost fortunes of his people and his beloved Southland. His fine education was immediately applied to the restoration of his worn-out acres according to the best known methods of his time.

#### J. L. Coker and Company

JAMES ALSO MANAGED in 1865 to open a general store at Hartsville which he called J. L. Coker and Company, and which is still in successful operation as one of South Carolina's greatest and most widely known department stores. It operates under the original name and is today headed by one of his grandsons.

#### • Interest in Public Education

Major Coker was greatly interested in public education and introduced a bill in the South Carolina legislature—he was a member of that body in 1864-65—for the establishment of a free public school system in the state. The bill failed of passage, but after he became successful as

*To Thousands of Southern Farmers—*

*Coker Means Cotton*

**It also means small grains,  
soybeans, tobacco—and  
better living on our farms**

**By IVAN J. CAMPBELL**

**Associate Editor  
The Cotton Gin and Oil Mill Press**

**WHEN David R. Coker died in 1938 strong, well-trained hands took a firm grip on the reins he held for so many years. Today those men are guiding the company along the safe, sure road "Mr. D. R." charted during his lifetime.**

a business man Major Coker again turned his attention to education and was instrumental in establishing the Welsh Neck High School at Hartsville in 1894. Later, after a public high school was built in the town, he was active in the establishment of a college at Hartsville that, against his will, was given his name. This was in 1908, and today Coker College is an honored unit in South Carolina's fine educational system. It has an endowment of \$700,000, more than \$650,000 of which has been contributed by the Coker family.

#### **David R. Coker—"Mr. D. R."**

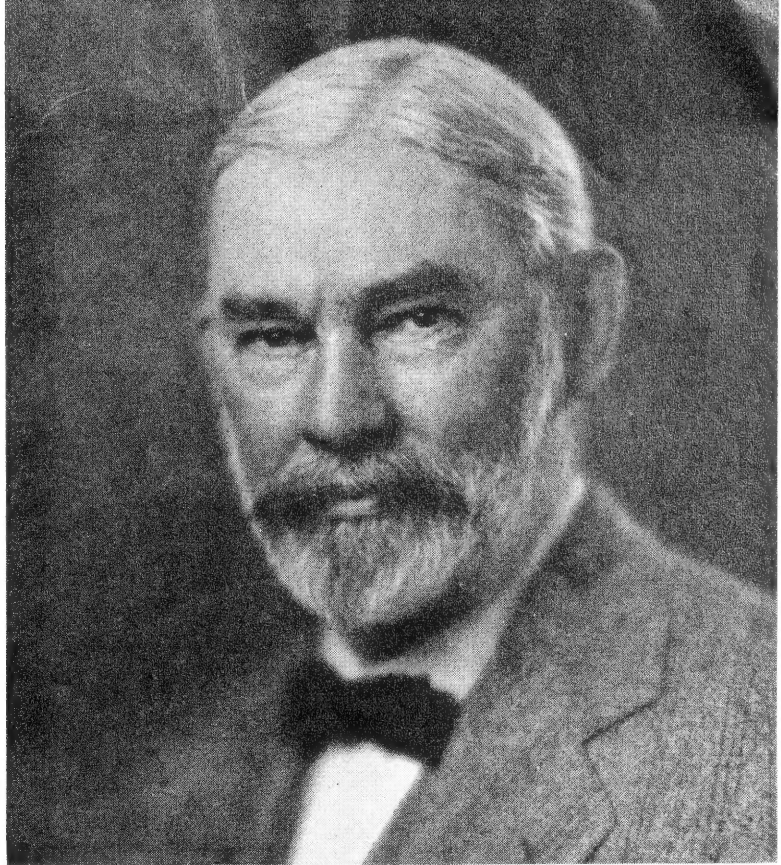
JAMES WAS THE FATHER of four sons, each of whom was to distinguish himself in his particular field of work, but it was David R. Coker, the beloved "Mr. D. R." to thousands who came to know him intimately, who was destined to influence the lives of so many people through his great contributions to the agriculture of the South.

David R. Coker's interest turned early to agriculture, and thousands of Southern farmers and their families who then toiled to produce good crops with poor knowledge later on were to find in him their greatest benefactor. At first he worked in his father's store, but there kept running through his mind the conviction that the South's farmers needed, more than anything else, better seed that would produce better yields of higher quality products.

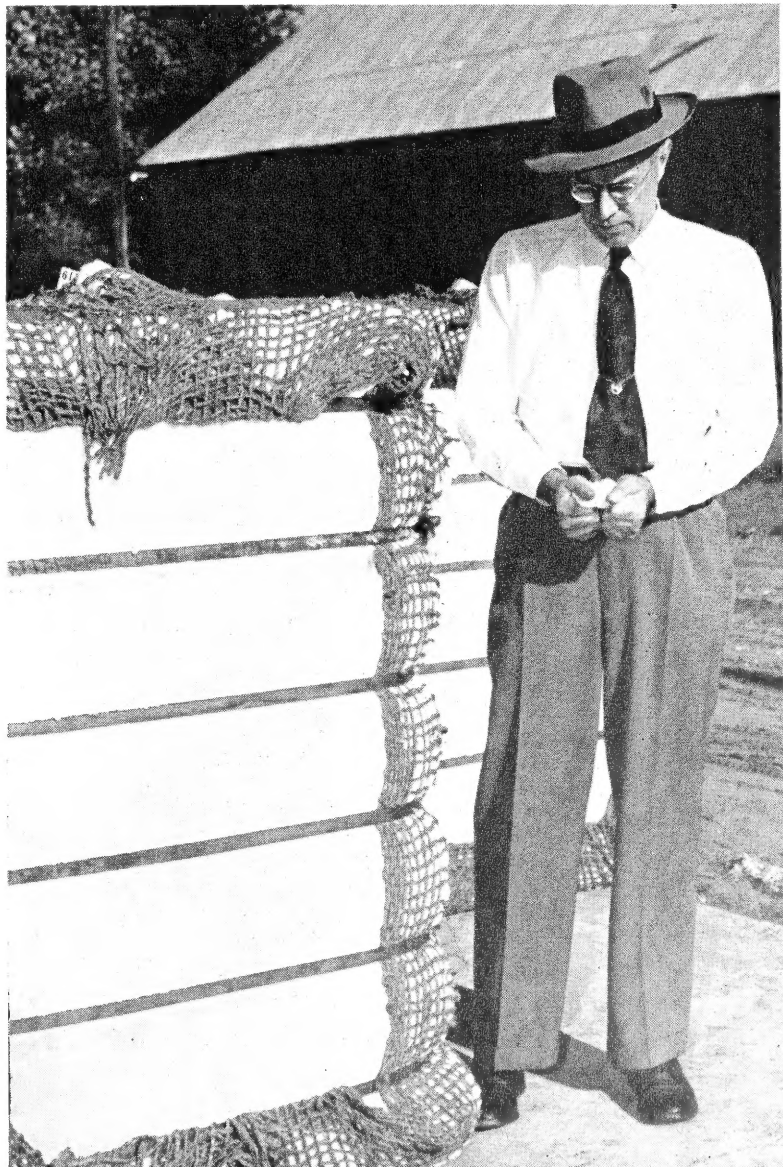
#### **• Breeding Work Began in 1902**

It so happened that W. C. Coker, a botanist at the University of North Carolina, Chapel Hill, brother of "Mr. D. R.," had made 30 plant selections out of a field of Jones Improved cotton grown on the Coker farm at Hartsville in 1902. In 1903 the selections were planted on the Coker plantation and supervised by D. N. Shoemaker, teacher of botany in the local school. In 1904 this breeding work was taken over by "Mr. D. R.," who continued to select the breeding lines until one of them was isolated as the most outstanding. This strain was called Hartsville. This breeding work continued until 1914 when the Pedigreed Seed Company was organized and operated as the Farm Division of J. L. Coker and Company, of which Mr. Coker was president from 1918 until his death in 1938, when he was succeeded by Robert R. Coker, his oldest son, who is still president of the store and vice-president of the seed company.

When the plant breeding experiments began at Hartsville in 1902, American upland cotton was short staple and mills were clamoring for a higher quality product. In South Carolina, for example, only 20 percent of the cotton produced in 1926 stapled 15/16 inch or longer: farmers were struggling to exist against all the heavy odds that went hand in hand with ignorance of scientific farming methods; and the South, generally, was poor because its



DAVID R. COKER, above, began his cotton breeding work at Hartsville nearly a half century ago. When he died in 1938 his son, ROBERT R. COKER, below, was made vice-president of the seed company.





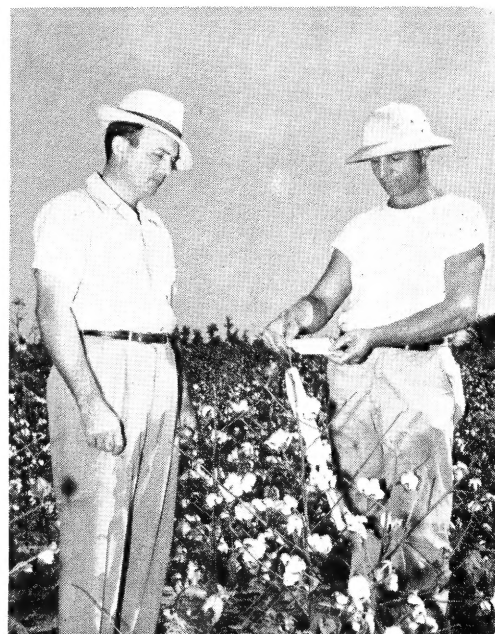
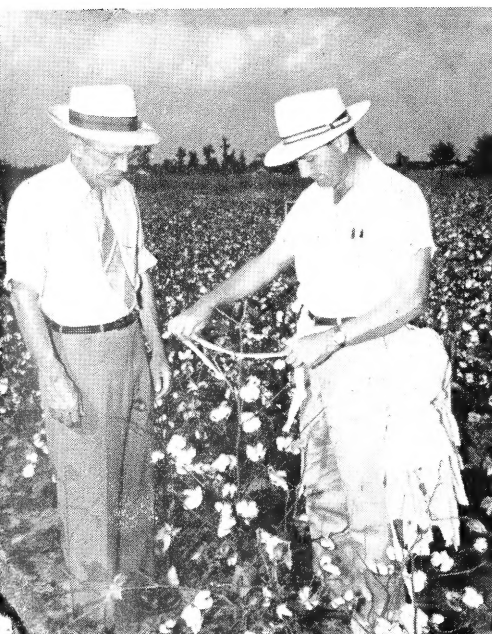


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C. HOYT ROGERS, above, heads up the research breeding work in cotton and tobacco at Coker's Pedigreed Seed Company. There are other competent cotton breeders on the Coker staff at Hartsville and in Mississippi.



S. J. HADDEN, left above, is in charge of small grain breeding work at Coker's. R. E. GETTYS, right above, heads up the hybrid corn breeding work. R. S. CATHCART, at left in lower left picture, is in charge of all farm operations. WALLACE TALBERT, at left in lower right picture, is in charge of sales.



farmers were producing too much short cotton on poor land and not enough food and feed for themselves and their work stock.

#### • "Improvement of Southern Agriculture"

In 1937, a year before his death, Mr. Coker said: "The main purpose for which Coker's Pedigreed Seed Company was organized and is operated is the improvement of Southern agriculture. During several intervals, one of six years' duration, we sustained heavy losses but went steadily along without sacrificing our scientific or social ideals. Everything seems now to indicate," he said, "that we are so firmly established with the scientific world and in the confidence of our very large line of customers that we will be able to continually broaden our work and, from year to year, make it more and more useful for the upbuilding of the South."

It was not always like that, for in the early days hardships that would have broken down softer wills sometimes made it appear not worthwhile to continue. But there never was any real thought of giving up. Instead, Mr. Coker began to surround himself with capable men and with their help he overcame many difficult problems. Indeed one of Mr. Coker's finest gifts seemed to be his ability to pick good men. One of these men was George J. Wilds, who in 1908, as a young college sophomore, first went to Hartsville as a helper to Mr. Coker in his plant breeding and experimental work, and is now the man at the helm of the company.

Another, who was famous as a plant breeder when he joined Mr. Coker in 1920, was Herbert J. Webber, the man for whom the famous Webber cottons were named. As the company grew, there were added to the staff such men as J. B. Norton, well known scientist and plant breeder; John F. Clyburn, outstanding farm manager and salesman; and R. S. Entzminger, who is still topping the company's sales of seed after 17 years.

In the business operation of the company, Mr. Coker had the help of men who were extremely capable. Chief among these were J. J. Lawton and A. L. M. Wiggins. Mr. Lawton served the Pedigreed Seed Company as vice-president along with his primary job as president of the oil mills at Hartsville, Greenville and Bishopville, and his connection with the other Coker industries. Mr. Lawton's son Edgar, a nephew of Mr. Coker, has now succeeded to all of these positions and lends his wise counsel to the company as did his father before him. The Coker brothers, including Mr. Lawton, the brother-in-law, were "partners in every enterprise," to quote David R. Coker, and each put forth his best effort to support the others.

A. L. M. Wiggins, who had been connected with the various Coker enterprises since 1913, had the major part in the basic organization and development of the business structure of Coker's Pedigreed Seed Company as it exists today. He was secretary and treasurer of the seed company until he accepted the appointment of Undersecretary of the Treasury in 1947. Mr. Wiggins was also managing director of J. L. Coker and Company and a former president of the American Bankers Association. He is now chairman of the A.C.L. and Louis-



ville and Nashville Railroads and Family Lines, and a director of the American Telephone and Telegraph Company.

#### • Essentials of Success

Mr. Coker considered the following as among the essentials of success in cotton growing: (1) pure bred seed of guaranteed good germination from a recently pedigreed strain of one of the early high-producing varieties of good staple length, and (2) the rigid limitation of the acreage planted to an area which can be properly worked and rapidly gathered. "The bane of the whole cotton industry," he declared, "is the planting of bigger crops than can be rapidly harvested, and this has resulted in a heavy over-production of low grades and in an under-production of food stuffs."

All his life David R. Coker worked untiringly to breed seed of constantly improved quality, but he went much further than that. He preached better farming, balanced farming, profitable farming—and never gave up in his long-range struggle to help the farmer overcome the evils of outmoded methods. His dream, which he pursued with a quiet but unflagging determination, was of a Southland whose farm families were well housed, well nourished and well dressed, and with educational facilities for children second to none in the country. He was often heard to say, "Agriculture is not just a business. It is a way of life." He thought in terms of essential food production on the farm, of a reduction in the number of dollars that had to leave the South for life's necessities, of farm equipment that would make the work-day easier for those who went into the fields to plant, cultivate and harvest the crops. He knew cotton would long be the South's principal cash crop, but he hated the prevailing idea that it should be grown on every available acre, good and bad; and he deplored to the last moment of his life the fact that not every farmer accepted the basic fact that good yields of high quality crops begin with the planting of quality seed.

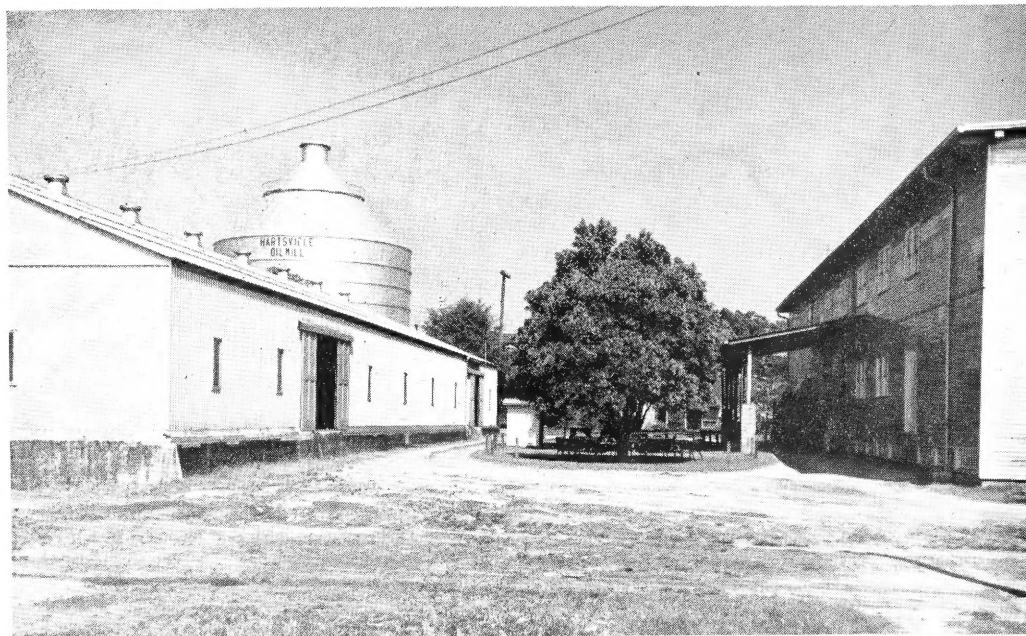
He was proud, as he had every right to be, of the success that finally came to him and his company. The fame of his improved seed spread throughout South Carolina; North Carolina farmers, and those in Georgia and other states, anxious to improve the quality of their cotton, heard of the great work being done at Hartsville and many of them soon were planting the seed that resulted from Mr. Coker's tireless efforts.

In 1921 he told his customers: "Every planter is interested in his financial future and we are equally interested in the financial future of our planter customers and of Southern agriculture generally. We are operating a seed breeding farm and selling highly bred seeds of the principal crops grown in the South. Our operations," he said, "must be financially successful if this business is to be maintained. We, however, did not take up this business primarily as a money-making proposition but mainly because the condition of Southern agriculture demanded that more attention be given to the improvement of agriculture through the breeding and introduction of better varieties of our staple crops and the maintenance of a reliable source of highly bred seed. We saw in this field of activity a great opportunity for public service of the highest grade. When our work was started in 1902, no other work

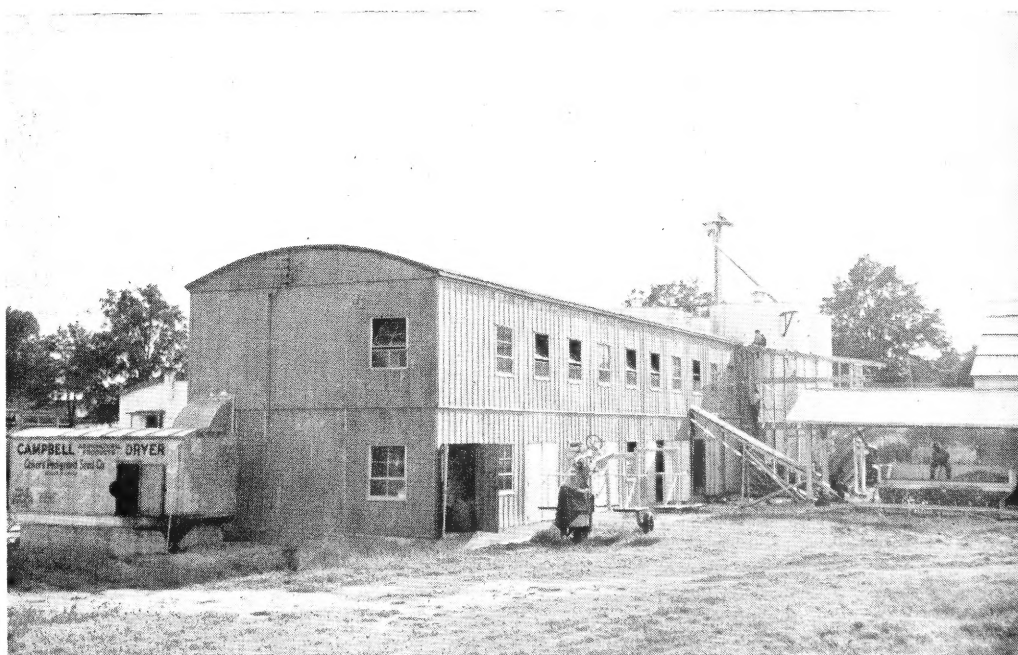


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PICTURE ABOVE, made on one of the Coker breeding farms at Hartsville, shows cotton piled on squares of burlap at end of rows. Expert supervision of this and all other operations in the breeding program is highly essential.



TWO OF THE warehouses, above, at Hartsville used for storing pedigreed cottonseed, small grains and other seed. In the summer, visitors are served cold watermelon under the trees between the warehouses. The Coker hybrid seed corn processing plant, below, is one of the most modern in the country.

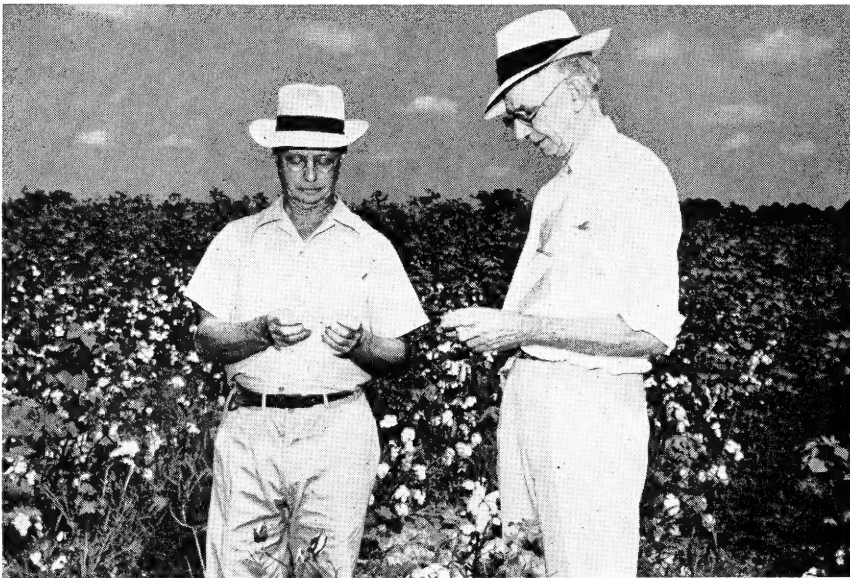


of similar kind had been started in the South. We are the pioneer pedigreed seed breeding company in the South."

• **Not Just Better Seed, but Better Farming Methods**

Mr. Coker's consuming desire to see the South rise above the status of an agricultural section of minor importance shows clearly in this remark he made early in his career: "The South will never come into its own until its fields are green in winter." And that he thought far beyond his primary job of supplying better seed to Southern farmers can be seen in this statement he made: "Plant breeding and other scientific experimentation covering a very wide field are necessarily incident to our work. Through

**RIGHT—LOADS OF COTTON** from Coker farms at Hartsville wait their turn at the company's gin. In South Carolina and in other sections of the Southeast, seed cotton is brought to the gin tied in burlap squares, as shown in the picture.



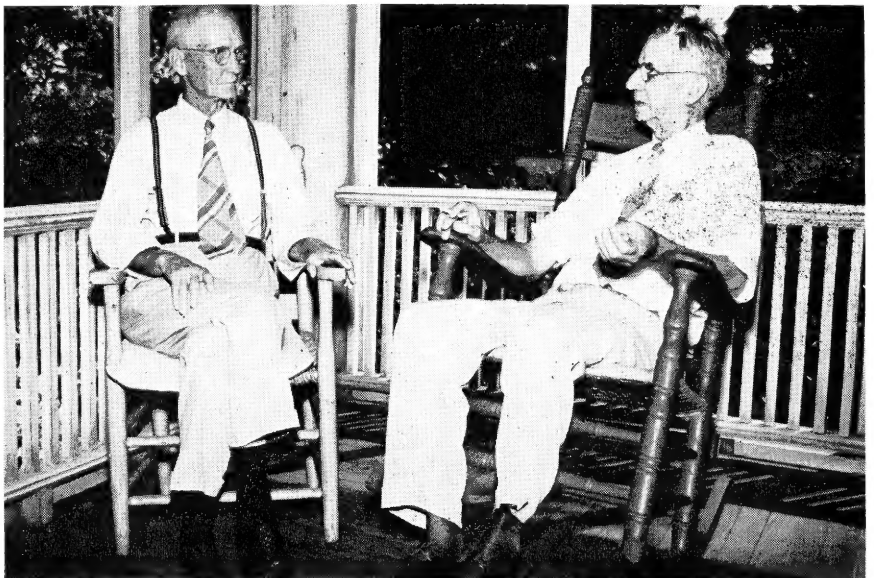
**Thousands Visit Coker Farms**

THE WORK of Coker's Pedigreed Seed Company annually attracts thousands of visitors to Hartsville, many of whom return year after year to witness the latest scientific production methods employed on the company's farms. Among the visitors are scientists and government officials from practically all foreign countries in which cotton is grown. Many distinguished men have been drawn to Hartsville over the years to see the Coker breeding program in operation. Among these were Secretaries of Agriculture

**LEFT—T. L. ROSS**, at left in picture, is a master farmer at Society Hill, S. C., in Darlington County. He has been a contract grower for Coker's Pedigreed Seed Company for a long time and says David R. Coker did more for agriculture in the Southeast than any other man. Shown with Mr. Ross is J. M. Napier, Darlington County agent at large, another South Carolinian who knew "Mr. D. R." well.

them we are constantly discovering and proving the superior value of our new plant families which produce high yields and better quality and which, therefore, add profits and comfort to the farmers' operations. Our experimental work also enables us to discover better and more economical methods of soil management, fertilization, cultivation and the preparation and handling of crops. What we learn from our scientific operations is the property of our customers for their asking."

**RIGHT—A. H. ROGERS**, at left in picture, another Society Hill farmer, has grown Coker cotton for many years. He went to work in the J. L. Coker and Company store in Hartsville in 1898 and stayed for 12 years. David R. Coker was working in the store in 1898, a few years before he began his breeding work on a nearby plot of ground. Mr. Napier is shown with Mr. Rogers on the porch of the latter's home.





Houston and Jardine; Herbert Hoover, when he was Secretary of Commerce; Daniel C. Roper, Secretary of Commerce; Thomas R. Marshall, Vice-President of the United States; senators, congressmen, governors; directors of extension, experiment station directors; and many others.

Delegations of farmers, county agents, vocational agriculture teachers and other agricultural workers visit the farms throughout the growing and harvesting season each year and many have come to think of the Coker organization as a free educational institution that teaches the most modern farming methods in existence. Twice each year a delegation of negro farmers from nearby Orangeburg County goes to Hartsville and always begins its visits with a prayer. In some years as many as 7,000 people have visited the farm.

#### • The Hartsville Operations

The Coker farms, comprised of approximately 7,000 acres of land, are made up of 13 different farming units or plantations located in the vicinity of Hartsville, situated on the extreme northern boundary of the Carolina Coastal Plain and the southern border of the Sand Hill Belt. The soil is of a sandy loam type of medium fertility and the flat fields are bordered by tall, dark long-leaf pines.

Of the 4,000 acres under cultivation, 1,800 are planted to cotton and of this acreage more than 1,500 are devoted exclusively to breeding, testing and increase. More than 500 acres are planted to hybrid corn, 115 acres to flue cured cigarette type tobacco, 600 acres to small grains, 300 acres to shatter resistant soybeans, 100 acres to the famous Darlington County Garrison watermelons, and additional acreage to sweet potatoes and sesame.

#### • Mississippi-Arkansas Operations

In addition to the farming operations at Hartsville, Coker's Pedigreed Seed Company is growing under contract a sizable acreage of cotton in the Piedmont section of South Carolina, in Mississippi, and at Forrest City, Ark. This contract cotton is grown under the personal supervision of Coker employees and is certified as registered breeder foundation stock by Crop Improvement Associations of the states where it is grown. The Arkansas-Mississippi operations were begun by the company in 1946. Extensive breeding and test experiments on soils heavily infested with wilt organisms are being conducted in this area. This work is under the direction of H. Maurice Larimore, experienced plant breeder.

#### • Coker Cottons Are Popular

The great popularity of Coker cottons is indicated by a remark attributed to a South Carolina school boy who, when asked in a test to name three essentials of good farm crops, replied, "Good soil, good cultivation, and Coker's pedigree seed."

According to estimates of Extension cotton specialists, 95 percent of North Carolina's cotton acreage is planted in Coker 100 Wilt or its parent strain Coker 100; more than 95 percent of South Carolina's; 50 percent of Georgia's; and 40 percent of Alabama's. These specialists estimate that in 1949, 3,172,000 acres were planted in Coker 100 Wilt cotton in those four states. Another 500,000 acres of Coker cotton were grown else-

where in the Cotton Belt in 1949, a large part of it in the Mississippi Delta. Coker 100 Wilt was introduced in the spring of 1942 and it is said that more than one out of every 10 acres of cotton in the United States is planted to this one variety.

#### The Present Management

WHEN DAVID R. COKER died in 1938 the management of the company passed into hands that had been well trained over a long period of years to take over that task. George J. Wilds, who had been with Mr. Coker since 1908, was named president and managing director. He had been made director of plant breeding in 1921, and has been treasurer since 1947.

#### • Robert R. Coker

Robert R. Coker, "Mr. D. R.'s" oldest son, is vice-president and secretary of the company and has been in charge of sales since 1932. Although not a trained plant breeder like his father, Robert R. Coker possesses a number of the traits that made his father one of the South's great agricultural leaders. He graduated with a B.A. degree from the University of South Carolina in 1928, at which time he became associated with his father in the seed company. He was placed in charge of sales in 1932 and named vice-president and secretary when his father died in 1938. He has been president of J. L. Coker and Company since 1941, and is vice-president of the Hartsville Oil Mill. He is a director of the Bank of Hartsville; Hartsville Cotton Mill, of which his father was one of the founders; Palmetto Oil Mill, Bishopville, S. C.; Greenville Oil Mill, Greenville, S. C.; Sonoco Products Company, and Egypt Farms, Inc. He has been an advisor to the board of directors of the National Cotton Council since 1945 and was named a member of the National Advisory Committee to the Research and Marketing Act in 1946 (now the Agricultural Research Policy Committee, USDA). He was the first president of the South Carolina Farm Bureau in 1944, is a director of the Coker College Foundation, president of the Darlington County Agricultural Society, founded in 1846, and a member of Alpha Tau Omega.

Robert Coker, like his father, is deeply concerned with the problems of the South and devotes much of his time to the larger matters affecting agriculture. Naturally, he and his associates are not indifferent about the future of the seed company; but at Coker's the men who inherited "Mr. D. R.'s" mission, his aims and his ideals, seek always to achieve for the cotton states an economy in which livestock, winter cover crops, the scientific use of fertilizer, and the proper balance of cotton with other crops will lift Southern farm families to new high levels of comfort and well being as guardians of our basic wealth, the soil.

#### • George J. Wilds

George J. Wilds, president, plant breeder and managing director of the company, holds A.B. and LL.D. degrees from the University of South Carolina, an A.M. from Cornell, and a D.Sc. from Clemson College. He was awarded a testimonial for distinguished service to agricultural development of South Carolina by Clemson in 1932; a medallion by the Association of Southern Agricultural Workers for "years of distinguished service" to Southern agriculture in 1947; and in 1948 was given the South Caro-

lina American Legion distinguished service award. He is a member of the American Association for the Advancement of Science, South Carolina Academy of Science, American Phytological Society, South Carolina Seedsmen's Association (president in 1947), the Darlington County Agricultural Society (president in 1945-47), Southern Agricultural Workers Association, Omicron Delta Kappa, Phi Beta Kappa, and Sigma Xi.

The South is fortunate in having, among the many fine plant breeding organizations that have given the farmer so many more profitable varieties of cotton and other crops, men who are so devoted to their work that personal gain may be said to be a consideration of secondary importance. George J. Wilds is an outstanding example of such devotion. Mr. Coker, when he told Mr. Wilds that he wanted him to have stock in the seed company, warned that it might not be worth very much as a revenue-producing proposition. "This," he said, referring to the company, "is an eleemosynary institution and we will put the profits back into our breeding work."

#### The Door Is Always Open

IT IS SAID of D. R. Coker that the door to his office was never closed to any man, white or black, who wanted to talk with him. Thousands of farmers took advantage of this open-door policy to sit with the eminent plant breeder to discuss everything from pedigreed seed to the need of the children for a better diet, more clothes, and better educational facilities.

Today, at Hartsville, that policy of never being too occupied with affairs of business to counsel with those the organization is pledged to serve still prevails. George Wilds, we know from personal experience, is almost never the sole occupant of his office. He is either entertaining visitors there or somewhere on the farm showing them the results of the work "Mr. D. R." began nearly a half century ago.

#### • A Powerful and Lasting Influence

It is also said of David R. Coker that he thought more of the South's welfare than he did of his own or the company's. Nearly every man who knew "Mr. D. R." will tell you he is the greatest figure Southern agriculture has produced. They have in mind not merely his success as a plant breeder, but what might be termed his even greater success as a powerful and lasting influence in the South's whole economic progress.

For example, when Dr. W. W. Long, who was then South Carolina's director of extension work, first hit on the idea of teaching agriculture and home economics to 4-H Club boys and girls in the rural schools of the state, he disclosed later at a meeting of farmers that, while he believed the idea was sound, he couldn't put it over because there wasn't enough money.

Mr. Coker and Bright Williamson, another far-seeing South Carolinian, also liked the vocational agriculture idea. They liked it so well, in fact, that they were willing to guarantee Mr. Long \$2,500 for the first year's work. J. M. Napier, then a county agent and now county agent at large in Darlington County, went to work on a program for five rural schools. It worked so well that Washington soon became interested in



the idea and a group went down to South Carolina to observe the results. This was the beginning of the vocational agriculture work that is now nationwide in its scope.

#### • Active in Many Fields

David R. Coker's unusual talents were put to work in many fields. He was a director of the Federal Reserve Bank of Richmond (Va.); mayor of Hartsville, 1902-04; chairman of the South Carolina Council of Defense, 1917-19; Federal Food Administrator, 1917; trustee of the University of South Carolina and of Coker College; member of the National Agricultural Advisory Committee, 1917-18; member of the National Agricultural Commission to Europe, 1918; served as president of the South Carolina Plant Breeders Association; and member of the Business Advisory Council, U.S. Department of Commerce. He was an A.B. of the University of South Carolina, and was awarded the following honorary degrees: D.Sc. Clemson College, D.Sc. Duke University, LL.D. University of North Carolina, and LL.D. College of Charleston. He received the MacMaster Medal from the University of South Carolina, awarded for distinguished service to humanity, and the American Legion Award for South Carolina.

### The Coker Breeding System

THE METHOD of pedigree breeding worked out by Mr. Coker early in his career is still in use at Hartsville. It is known as the plant-to-row method and is generally recognized by plant breeders and experiment stations as the best ever devised for plant improvement. The plant breeder, like the animal breeder, must make the individual the unit of selection, and this idea is carried out in the plant-to-row method.

Pedigree breeding, as applied by the Coker organization, means that every year a new strain or family is started of each variety from the best plant of that variety selected the preceding year. Since the selected plants are taken each year from the best progenies in the plant-to-row tests, the pedigrees of the different strains are, therefore, continuous.

#### • The "Tremendous Trifles"

The work of the seed breeder appears to be easy until the various steps in producing a new strain are followed throughout the season and over a period of years. And while as a general rule the procedure is pretty much a standardized series of progressive steps, the plant breeder actually is engaged in one of the most exacting sciences known. Small mistakes, little oversights, a momentary departure from the hard rules he must follow can, either singly or in combination, result in very serious damage to the breeding program. Because of the great importance of these "tremendous trifles," the plant breeder must be doubly careful in selecting responsible staff members to place in charge of the many detailed steps in producing a new strain of cotton, oats, soybeans, hybrid corn or any other crop.

Each year Coker's makes up to 50,000 individual plant selections. In its Coker 100 Wilt program alone, the company in 1948 made 35,000 selections in its plant-to-row test of that variety. There were more than 200 strains in the first-year increase and 25 strains in the second-year increase. In the third-year increase

1,600 acres were planted, to produce seed marketed in 1950.

#### • Breeding a New Variety

Mr. Wilds gave a clear explanation of the procedure in a recent talk. Here, in his own words, is how a new strain is developed:

"The plant breeder in conducting his work of producing a pedigreed strain deals with individuals the same as does the stock breeder, and certain individuals selected may be potentially of as great or greater value than the finest animals ever sold, as their value is reckoned only in their after effect on an industry.

"Since cotton plants vary in their characteristics and producing ability as do hens, cows and human beings, we must employ one of the two fundamental methods in the breeding process. First, that of selection—choosing always the best from the best, and discarding the inferior. Second, crossing two (or more) strains, in order to induce desirable variations where selection alone has not disclosed them.

"Let us take as the basis of our experimentation one acre of cotton. The cotton on this acre has already been planted and thinned sufficiently to allow the plants to develop normally, at the time when we begin our experiment. From the cotton on this one acre we shall endeavor to breed by selection over a period of years a new, superior variety. Let us follow this breeding procedure.

"1. Let us watch this cotton carefully and at frequent intervals as it develops in the field, and during the season mark any conspicuously good plant.

"2. When the cotton starts opening we will go through the field again and examine carefully each plant. Those plants deemed best as to production and other desirable traits will be marked with a string or tag.

"3. When ready to pick we will work over and examine the field carefully again. Now those plants showing any weakness or undesirable traits must be discarded. To the remainder of our selections we will assign each a number. This number is tagged on the plant. Each plant must be picked separately and the cotton put into a bag bearing the plant's number and description. Notes such as type of plant, height, number of vegetative branches, total number of bolls and number picked, are recorded on the bag.

"4. Now the bags of seed cotton from each plant are taken into the laboratory and notes taken in the field will be examined carefully and transferred from the bags to record books. Length of lint, uniformity and relative strength are recorded. Those plants which fail to meet our minimum standard will now be discarded.

"5. Next, selected plants are taken to our small roller gin. There we record the weight of the seed cotton before it is ginned, each bag separately, and the weight of lint after it is ginned. Thus we determine the percent of lint.

"6. The complete records on each plant we will again study carefully. These plants which now meet the highest standards are selected for continued breeding. The number of plants selected will be about 10 percent of the original number.

"This ends the first year, and begins the second year with about 50 plants retained from a possible 500 original selec-

tions. We will continue with our ABC's, step by step, the second year.

"1. We will delint the seed—still kept in separate bags—with sulphuric acid and treat them with Ceresan for the control of diseases. Now from the seed of each selected plant we will plant a separate row (1/100 of an acre long). The seed are planted in hills uniformly spaced. These seed are dropped, covered, and later thinned by hand. Every tenth row is planted similarly with seed of the parent variety, in order to serve as a check. This we call our Plant-to-Row test.

"2. The same procedure of close study and record keeping is followed this second year. Now we are seeking for outstanding rows or families where the first year it was individual plants. (With luck we may find such a row or family this first year. More probably it will require nearer six years of such plant-to-row selections before plant families of sufficient uniformity are found to warrant an increase.)

"3. Now the rows are studied as units, along with the individual plants, of course. Fifty average-sized bolls are picked from each row, for determination of boll size, staple length and lint percent, etc. Each row is then picked in a separate bag and a record of yield made.

"4. The same procedure of selecting rows will be followed as with individual plants.

"This ends the second year.

"We have advanced now from the individual to the row, to the plot. We will now plant the seed from each selected row of our plant-to-row into a half acre plot. Some seed from each row will be planted in a strain test, with a check every fifth row, planted with parent seed. Records will now be kept and studied as plots. About 5 to 10 percent of these plots are selected for increase and are planted in 25 to 50 acre fields in the fourth year.

"Now we have progressed from individual plant-to-row, to plot, to 50 acre field. Some seed will be saved out from these plots and planted in yield tests in Government and State Experiment Stations, as well as in our own variety tests. After all reports are in from the numerous experiment station tests, data will be summarized, carefully studied and analyzed. The seed from the one best strain which has consistently given the best performance will be saved and increased further, to be put on the market as a new Pedigreed Cotton. The same system is followed in maintaining an established variety except that the best 3 to 5 such plant families are saved each year which furnish planting stocks."

### The Coker Breeding Staff

THE PRESENT plant breeding staff at Coker's Pedigreed Seed Company, which works under the direction of Mr. Wilds, is one of the most capable to be found anywhere. Highly trained plant breeders head up the various crops and with their assistants round out a scientific staff of more than 20 men whose aims and objectives parallel those laid down by the company's founder.

R. S. Cathcart, plant breeder, is in charge of all farm operations, the warehouses, and the gin. In addition, Cathcart supervises the contracting work for cotton, corn and grain acreage. Wallace Talbert is in charge of sales, working directly under Vice-President Robert

Coker. Among the personnel at Hartsville are six farm superintendents, eight office workers, and almost 200 laborers (not including seasonal farm laborers). Approximately 30 share croppers play a part in the company's seed production schedules, along with about 125 contract seed growers in the Carolinas, Arkansas and Mississippi.

The families living on Coker farms represent a total of some 500 people for whom the company provides comfortable homes, firewood, and gardens free of charge. Several of the tenants have lived on the farms for 25 to 30 years. Employees or tenants who have been with the company for a number of years are cared for by the company when they become incapacitated. The company encourages employees and tenants to take periodic medical examinations and provides medical and hospital care to those who cannot afford it themselves.

#### • Today's Coker Cottons

At one time Coker's Pedigreed Seed Company produced Coker 100, Coker 200, 4-in-1, Farm Relief, and Wilds, and in some instances two strains of each. But it was found desirable, because of changing conditions, to reduce the lines to three basic varieties. These are Coker 100 Wilt, a medium length staple of 1-1/16 inch to 1-1/8 inch; Coker 100 Staple, a longer cotton of 1-1/8 inch to 1-5/32 inch; and Wilds, a long-staple cotton of 1-1/4 inch to 1-3/8 inch. Approximately 95 percent of the acreage in the Carolinas is planted to Coker 100 Wilt and it is also very popular in Georgia and Alabama and sections of Arkansas, Mississippi and Texas. Coker 100 Staple was bred for the Mississippi Delta and other areas that can successfully grow a longer staple cotton, and Wilds for areas that specialize in cotton of that length.

#### • Tobacco and Small Grains

The Coker organization is famous in the Southeastern states for its outstanding work with tobacco and small grains. Approximately 40 percent of the flue cured tobacco acreage is planted in Coker seed and approximately a million acres in small grain varieties developed at Hartsville.

As a plant breeder of "international repute," to use David R. Coker's own words, George J. Wilds' accomplishments in this field are as notable with oats and other small grains as with cotton. He has developed smut, rust, and cold resistant oats which make high yields, have high feeding value, and thus enjoy great popularity in the Carolinas and other Southeastern states.

## Objectives of the Breeding Program

THE OBJECTIVE of the small grain program, which is in charge of S. J. Hadden, is the production of high-yielding, stiff-strawed, winter-hardy varieties highly resistant to diseases. In the 1949-50 breeding program, the Company's nursery system involved the sowing of approximately 70,000 individual yield test and progeny rows on 295 acres of land. There were grown, in yield comparisons, and special disease-test plots, 26,386 breeding lines of oats, 8,500 of wheat, and 213 of barley. Recently developed techniques are employed for testing all selected lines with pure cultures of disease organisms. A spacious greenhouse and well-equipped laboratory facilitate such detailed tests. Special disease-test nurseries grown in the lower South provide conditions favorable to selection for resistance. In oat breeding, a speed-up program has been instituted by growing an extra generation during the summer at Aberdeen, Idaho.

In 1950, the company introduced a new Victorgrain oat (Victorgrain 48-93) much improved over the original variety in yield and Helminthosporium tolerance, and two new varieties of wheat that combine high resistance to rust and good tolerance to mildew.

Beginning in 1928, under the direction of J. Verne Williamson, Coker pioneered in the systematic breeding of uniformly better flue-cured varieties of tobacco. In 1942 C. Hoyt Rogers, pathologist and Ph.D. of Rutgers University, was added to the staff, and in an intensive research program for disease resistance is being carried on. Under his direction an ambitious program of tobacco breeding work at Hartsville has been inaugurated, a part of which is a cooperative project with one of the major tobacco companies wherein promising lines are analyzed in the tobacco firm's laboratories and carried through the complete aging and manufacturing processes to evaluate the tobaccos for cigarette manufacture. Dr. Rogers has a similar program for disease resistance in cotton breeding, involving inter-specific crossing for added strength and spinning value. This research holds out great promise for the future.

The corn breeding program at Coker's, directed by R. E. Gettys, has been in progress for 11 years. A winter nursery is grown near Miami, Florida, which has greatly accelerated the breeding program by permitting a more rapid evaluation of new inbred lines and hybrids. The goal of the breeding program is not only

to develop high-yielding, adapted hybrids for the South, but also to develop hybrids that are suited to mechanical production. Special effort is being made to obtain certain characteristics such as uniformity, low ear placement, medium or short plant height, and adequate root and stalk strength to hold the plants erect until harvest. A new white hybrid known as Coker's 811 has resulted from this painstaking work and a small amount of seed was offered for sale for the first time in the fall of 1950. This new hybrid has made an outstanding record in yielding ability, lodging resistance, weevil resistance, and resistance to certain diseases. These characteristics are essential for the production of high quality grain and promise to make this hybrid very popular in the South.

In 1942 Miss Mary Coker, daughter of David R. Coker, made a cross of Tokyo and Nanda soybeans. The selections from this hybrid show great possibilities for high yield, high oil content, shatter and disease resistance. One of the most promising selections of this hybrid is being increased and tested this year in several locations. When this bean proves its worth it will be distributed and sold under the name of Majos (pronounced May-Jos) for its breeder, Mary Coker Joslin.

#### • Employ Scientific Methods

In its cotton breeding work the Coker organization employs the use of every known scientific method and device for testing and is now concentrating on the breeding of early, high-yielding cottons of desirable staple length and good spinning quality. At the same time, Mr. Wilds and his staff continue to improve other desirable characteristics such as resistance to Fusarium and Verticillium wilts, good gin turnout, high oil content of seeds, and adaptability for machine harvesting.

In the words of Mr. Wilds: "We are pouring everything we have into our objective, namely, a highly productive, highly wilt resistant, nematode resistant, all-purpose, 1-1/16 inch cotton that will more than meet any manufacturer's requirement."

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To those who best know the history of this family the name Coker means many things in Hartsville and South Carolina, but to thousands of farm families in hundreds of communities scattered over the broad face of a resurgent and fruitful Southland, more than anything else . . . Coker Means Cotton.









Photo lefthand page: Spindle type cotton pickers harvesting defoliated field of Coker 100 Wilt Resistant cotton. Note excellent picking qualities of this cotton as shown by small amount which machines failed to gather on picked rows on right. Photo above illustrates heavy fruitage and wide, fluffy opening of Coker 100 W.R. cotton. Scenes shown on these two pages were taken on Coker Farms near Hartsville, S. C.

